Urban Ecosystem Analysis Summary

A critical and persuasive new tool for managing our city's ecology

Why was the Urban Ecosystem Analysis necessary?
Housing, commercial buildings and more numerous streets and highways contribute to a thriving metropolis. But their construction also destroys and replaces native vegetation that used to assure good air quality, cleaner water and lower energy costs. Until the Urban Ecosystem Analysis, we had few means of quantifying the financial and environmental costs of these radical changes.

What data does the Urban Ecosystem Analysis provide?
The study, completed in cooperation with American Forests, *www.americanforests.org*, characterizes the effects of San Diego's changing ratio of vegetation to buildings, asphalt and other impermeable surfaces, between 1985 and 2002. High-resolution imagery reveals that the City of San Diego currently has 13 percent tree cover...far short of the 25 percent recommended for this ecosystem. It also puts a dollar value to existing and recommended tree cover, as accrued in managing air and water resources.

Changes in shade-tree canopy (i.e. vegetation over six feet tall) include losses in native chaparral. Urbanized San Diego had roughly 9.6% tree cover in 1985. By 2002, this was reduced to 7.0%. Losses on undeveloped land were approximately 20%. Together tree cover losses from 1985 to 2002 were 27%.

The analysis substantiates that existing shade-tree cover:

- Removes 4.3 million pounds of air pollution annually valued at $10.8 million annually. The removed pollutants include nitrogen dioxide, sulfur dioxide, carbon monoxide, ozone and particulate matter of 10 microns or less.
- Provides stormwater retention capacity of 82 million cubic feet. It would cost an estimated $164 million to build infrastructure with a 20 year life to handle this amount of stormwater if this tree cover were lost.
- Sequesters 9,144 tons of carbon annually, and store 1.2 million tons of carbon.

What difference will the Urban Ecosystem Analysis make?
Now decision makers can use this data to correct the course of development in our city. They can rectify the negative impacts of "deforesting" by supporting the planting and protection of shade trees.